We claim:

1. A solid electrolytic capacitor formed from a valve metal having a dielectric film formed thereupon by an anodic oxidation process including a phosphate containing electrolyte, a non-contiguous, non-conducting coating of a metal oxide more basic than said dielectric film formed on a portion of said film, a conductive polymer formed by a chemical oxidation process formed upon said film and said coating of a metal oxide and means for electrical connection to said valve metal and to said conductive polymer.

2. A solid electrolytic capacitor according to claim 1 wherein said valve metal is selected from the group consisting of aluminum, tantalum and niobium.

3. A solid electrolytic capacitor according to claim 1 wherein said metal oxide is selected from the group consisting of manganese dioxide, lead dioxide, tin dioxide, diantimony trioxide, and cupric oxide.

4. A solid electrolytic capacitor according to claim 3 wherein said metal oxide is manganese dioxide.

5. A solid electrolytic capacitor according to claim 1 wherein said conductive polymer is selected from the group consisting of polypyrrole, polythiophene, polyaniline, polyacetylene and derivatives and mixtures thereof.

6. A solid electrolytic capacitor according to claim 4 wherein said conductive polymer is a polyethylene dioxythiophene.

7. A method for making a solid electrolytic capacitor comprising:

a) anodically oxidizing a coupon formed from a valve metal in an electrolyte containing a phosphate;

b) coating said anodized coupon with a metal salt in a dilute aqueous solution thereof;

c) converting said salt to an oxide which is in the form of non-contiguous, non-conducting islands;

d) forming a conductive polymer upon said anodized coupon and said oxide by a chemical oxidation method; and

e) connecting said valve metal and said conductive polymer to separate electrical leads.

8. A method according to claim 7 wherein said anodic oxidation is performed in an electrolyte solution containing a high amount of phosphate.

9. A method according to claim 8 wherein the electrolyte solution contains between 1 and 10% (wgt/vol) phosphate.

10. A method according to claim 7 wherein the metal in said metal salt is selected from the group consisting of manganese, lead, tin, antimony, gallium and copper.

11. A method according to claim 10 wherein the metal is manganese.

12. A method according to claim 7 wherein the metal salt is manganese nitrate.

13. A method according to claim 7 wherein said conductive polymer is selected from the group consisting of polypyrrole, polythiophene, polyaniline, polyacetylene and derivatives and mixtures thereof.

14. A method according to claim 13 wherein said conductive polymer is a polyethylene di-oxythiophene.

15. A method to adjust the effective acidity of an anodic film on a valve metal comprising de positing upon the surface of said film a non-contiguous, non-conductive oxide of a metal se lected from the group consisting of manganese, lead, copper (II) and tin.